

SYSTEM AND METHOD FOR CONTROLLING  
DRILL MOTOR ROTATIONAL SPEED

ABSTRACT OF THE DISCLOSURE

In one embodiment, a system for controlling drill motor rotational speed includes a downhole motor disposed in a drill string and having a rotor operable to be rotated by a flow of drilling fluid through the motor. The system also includes one or 5 more by-pass ports operable to allow a portion of the drilling fluid to exit the drill string into a well bore and a governor coupled to the rotor and comprising a valve operable to move in response to the rotational speed of the rotor. The valve movement controls the amount of drilling fluid allowed to flow through the by-pass ports and exit the drill string into the well bore. The valve also directly controls the 10 flow of the drilling fluid into the motor based on the amount of drilling fluid allowed to flow through the by-pass ports, thereby controlling the rotational speed of the rotor.